MATHEMATICAL DISCOURSE

OUTLINE

- Academic Standards and Academic Language
- Academic discourse elements
- Challenges to using mathematical discourse
- Example

ACADEMIC STANDARDS AND ACADEMIC LANGUAGE

Oral Communication and Organization

Present and promote a clear idea and choose appropriate evidence (ex. Statistics, testimonies, specific examples) that fulfill the standardized requirements of evidence, including credibility, validity and relevance.

Analysis and Evaluation of Oral and Written Communication

Evaluate the clarity, quantity, effectiveness, and general coherence of the important points, arguements, evidence, organization of ideas, delivery, pronunciationa and syntax of the speaker.

ACADEMIC STANDARDS AND ACADEMIC LANGUAGE

Provide persuasive arguements

- Structures ideas and arguements in a coherent and logical manner.
- Uses rhetorical means to support claims (ex. Appeals to logic through reasoning; appeals to the emotions or ethical beliefs through the use of a personal anecdote, case study, or analogy).
- Clarifies and defends positions with precise and relevant evidence, includes facts, expert opinions, citations, commonly accepted beliefs, and logical reasoning.

WHAT IS ACADEMIC DISCOURSE?

- More than a conversation.
- Responsibility on the students.
- High level of rigor.
- Maintains the students' attention, coherence and participation.
- The students think deeply, articulate their reasoning, and listen with a purpose.
- Focuses on the mathematical reasoning, not on the precision of the language use.

ELEMENTS OF ACADEMIC DISCOURSE

Thematic focus	The teacher selects and plans topics or ideas to start and maintain the discussion.
Activates previous knowledge	The teacher uses knowledge about the students to hook them in the discussion.
Direct teaching	The teacher can dirctly explain/teach the students.
Promotes complex language	The teacher obtains the students' ideas by asking questions like: "Tell me more.", "Do you agree?Why?"
Obtains ideas to justify answers	The teacher teaches students to use text or reasoning to support their arguements.

ELEMENTS OF ACADEMIC DISCOURSE

Fewer known answers	Much of the dialog focuses on questions and answers that can have more than one correct answer.
Responds to student contributions	While maintaining a focus on coherence in the discussion, the teacher also responds to the contributions of the students and the opportunities they provide.
Connecting the discussion	The discussion is characterized by multiple interactive turns adn connections. Each contribution supports previous ones.
Challenges without threatening	The teacher creates a challenging atmosphere that is balanced with a positive environment. The teacher is a colabortator mor than an evaluator.
Wide and self-selected participation	The teacher encourages general participation and volunteering among the students.

WHAT ARE THE CHALLENGES OF TEACHING ACADEMIC DISCOURSE

- Revoicing students' oral contributions to make sure that everyone understood.
- Maintain the focus and continuity of the conversation.
- Respond to different language levels.
- Maintain equitable participation among the students.
- Evaluate when and how to include other students in the conversation.
- Explain to the students about the use of language to do school work.

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MATHEMATICS AND LANGUAGE, LITERACY INTEGRATION IN DUAL LANGUAGE SETTINGS

REFLEXIÓN

- Which of the discourse strategies do you regularly use? Why?
- Which discourse strategies do you not regularly use? Why?
- What changes would you like to make in order to model/implement better mathematical discourse?